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EXAMINER

HO, ALLEN C

ART UNIT PAPER NUMBER

2882

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/067,753 | Applicant(s) BRATSLAVSKY ET AL. | |
| | Examiner Allen C. Ho | Art Unit 2882 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 14, 15 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14, 15 and 17-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>0104</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. The request to withdraw finality of office action filed on 08 December 2003 has been considered and is persuasive. Accordingly, the finality of that action is withdrawn, and a corrected office action follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (U. S. Patent No. 5,001,738) in view of Carrol *et al.* (U. S. Patent No. 6,320,934 B1) and Koren (U. S. Patent No. 6,315,444 B1).

With regard to claim 1, Brooks disclosed a positioning system for dental x-ray examinations, comprising: an image sensor (11); a holder (10) bonded to the image sensor by a pressure-sensitive (inherent) adhesive (21).

However, Brooks failed to teach: (1) the image sensor is an electronic image sensor; (2) the electronic image sensor is covered by a sheath; and (3) the holder is removably bonded to the sheath by a pressure-sensitive adhesive.

Carrol *et al.* disclosed that electronic image sensors comprising CCD or CMOS active pixel sensor arrays have been adapted to dental x-ray imaging (column 1, lines 59-63).

Koren disclosed a sheath (20) for preserving the sterility of a reusable intraoral image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ an electronic image sensor for intraoral dental radiography, since a person would be motivated to see the image in real time, and a person would be motivated to keep the cost down by using a reusable image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to cover the electronic image sensor in a sheath, since a person would be motivated to preserve the sterility of a reusable intraoral image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to bond the holder removably to the sheath by a pressure-sensitive adhesive, since a person would be motivated to position the holder by trial and error in order to find the best orientation for the image sensor.

With regard to claims 2 and 3, Brooks, Carrol *et al.*, and Koren disclosed the positioning system as set forth in claim 1, wherein the electronic image sensor comprises a charge-coupled device or a CMOS active pixel sensor array (Carrol *et al.*, column 1, lines 59-63).

With regard to claim 4, Brooks, Carrol *et al.*, and Koren disclosed the positioning system as set forth in claim 1, wherein the holder is bonded to the sheath at any point along a surface of the electronic image sensor (inherent).

With regard to claim 5, Brooks, Carrol *et al.*, and Koren disclosed the positioning system as set forth in claim 1, wherein the sheath is a material selected from the group consisting of paper, cotton, sponge, rubber, plastic, latex, and nylon (Koren, column 3, lines 15-18).

With regard to claim 6, Brooks, Carrol *et al.*, and Koren disclosed the positioning system as set forth in claim 1.

However, these references fail to teach that the adhesive is selected from the group consisting of tape, epoxy, hot melt, and sealant.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an adhesive selected from the group consisting of tape, epoxy, hot melt, and sealant, since a person would be motivated to employ an adhesive that is capable of removably bonding the holder and the image sensor as long as it is safe to the patient. Furthermore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to choose from among the known equivalents based solely on design choice absent any showing of criticality; the lack of criticality is demonstrated by applicant's claiming of a plurality of equivalent adhesive.

4. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (U. S. Patent No. 5,001,738) in view of Carrol *et al.* (U. S. Patent No. 6,320,934 B1) and Koren (U. S. Patent No. 6,315,444 B1).

With regard to claim 7, Brooks disclosed a method for enabling a dental practitioner to position a dental image sensor (11), comprising the steps of: affixing a holder (10) having a pressure-sensitive (inherent) adhesive coating (21) to the image sensor to create a bond between the holder and the image sensor; position the holder and the image sensor within the mouth of patient (Fig. 4); and capturing at least one dental image (inherent).

However, Brooks failed to teach a method for enabling a dental practitioner to position an electronic dental image sensor. Furthermore, Brooks fail to teach that the method comprising the

steps of: (1) placing an electronic sensor in a sheath; (2) affixing a holder having a pressure-sensitive adhesive coating to the sheath to create a removable bond between the holder and the sheath; and (3) removing the holder from the sheath following the capture of at least one dental image.

Carrol *et al.* disclosed that electronic image sensors comprising CCD or CMOS active pixel sensor arrays have been adapted to dental x-ray imaging (column 1, lines 59-63).

Koren taught placing a reusable intraoral image sensor in a sheath (20) for preserving the sterility of the image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ an electronic image sensor for intraoral dental radiography, since a person would be motivated to see the image in real time, and a person would be motivated to keep the cost down by using a reusable image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to place the electronic image sensor in a sheath, since a person would be motivated to preserve the sterility of a reusable intraoral image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to affix the holder having a pressure-sensitive adhesive coating to the sheath to create a removable bond between the holder and the sheath, since a person would be motivated to position the holder by trial and error in order to find the best orientation for the image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to remove the holder from the sheath following the capture of at least one

dental image, since a person would be motivated to dispose the sheath and prepare the image sensor for the next patient.

With regard to claim 8, Brooks, Carrol *et al.*, and Koren disclosed the method as set forth in claim 7, wherein the holder is bonded to the sheath at any point along a surface of the electronic image sensor (inherent).

With regard to claim 9, Brooks, Carrol *et al.*, and Koren disclosed the method as set forth in claim 7, wherein the sheath is a material selected from the group consisting of paper, cotton, sponge, rubber, plastic, latex, and nylon (Koren, column 3, lines 15-18).

With regard to claim 10, Brooks, Carrol *et al.*, and Koren disclosed the positioning system as set forth in claim 7.

However, these references do not teach that the adhesive is selected from the group consisting of tape, epoxy, hot melt, and sealant.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an adhesive selected from the group consisting of tape, epoxy, hot melt, and sealant, since a person would be motivated to employ an adhesive that is capable of removably bonding the holder and the image sensor as long as it is safe to the patient. Furthermore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to choose from among the known equivalents based solely on design choice absent any showing of criticality; the lack of criticality is demonstrated by applicant's claiming of a plurality of equivalent adhesive.

5. Claims 11, 14, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (U. S. Patent No. 5,001,738) in view of Carrol *et al.* (U. S. Patent No. 6,320,934 B1).

With regard to claim 11, Brooks disclosed a positioning system for dental x-ray examinations, comprising: an image sensor (**11**); and a holder bonded to the image sensor by a pressure-sensitive (inherent) adhesive (**21**).

However, Brooks failed to teach: (1) the image sensor is an electronic image sensor; and (2) the holder is removably bonded to the electronic image sensor by a pressure-sensitive adhesive.

Carrol *et al.* disclosed that electronic image sensors comprising CCD or CMOS active pixel sensor arrays have been adapted to dental x-ray imaging (column 1, lines 59-63).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ an electronic image sensor for intraoral dental radiography, since a person would be motivated to see the image in real time, and a person would be motivated to keep the cost down by using a reusable image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to bond the holder removably to the electronic image sensor by a pressure-sensitive adhesive, since a person would be motivated to position the image sensor by trial and error in order to find the best orientation for the image sensor.

With regard to claims 14 and 15, Brooks and Carrol *et al.* disclosed the positioning system as set forth in claim 11, wherein the electronic image sensor comprises a charge-coupled device or a CMOS active pixel sensor array (Carrol *et al.*, column 1, lines 59-63).

With regard to claim 17, Brooks and Carrol *et al.* disclosed the positioning system as set forth in claim 11.

However, these references do not teach that the adhesive is selected from the group consisting of tape, epoxy, hot melt, and sealant.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an adhesive selected from the group consisting of tape, epoxy, hot melt, and sealant, since a person would be motivated to employ an adhesive that is capable of removably bonding the holder and the image sensor as long as it is safe to the patient. Furthermore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to choose from among the known equivalents based solely on design choice absent any showing of criticality; the lack of criticality is demonstrated by applicant's claiming of a plurality of equivalent adhesive.

6. Claims 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (U. S. Patent No. 5,001,738) in view of Carrol *et al.* (U. S. Patent No. 6,320,934 B1).

With regard to claim 18, Brooks disclosed a method for enabling a dental practitioner to position a dental image sensor (11), comprising the steps of: affixing a holder (10) having a pressure-sensitive (inherent) adhesive coating (21) to the image sensor to create a bond between the holder and the image sensor; position the holder and the image sensor within the mouth of a patient (Fig. 4); capturing at least one dental image (inherent).

However, Brooks failed to teach a method for enabling a dental practitioner to position an electronic dental image sensor. Furthermore, Brooks failed to teach that the method comprising the steps of: (1) affixing the holder having a pressure-sensitive adhesive coating to the electronic image sensor to create a removable bond between the holder and the electronic image sensor;

and (2) removing the holder from the electronic image sensor following the capture of at least one dental image.

Carrol *et al.* disclosed that electronic image sensors comprising CCD or CMOS active pixel sensor arrays have been adapted to dental x-ray imaging (column 1, lines 59-63).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ an electronic image sensor for intraoral dental radiography, since a person would be motivated to see the image in real time, and a person would be motivated to keep the cost down by using a reusable image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to affix the holder having a pressure-sensitive adhesive coating to the electronic image sensor to create a removable bond between the holder and the electronic image sensor, since a person would be motivated to position the holder by trial and error in order to find the best orientation for the image sensor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to remove the holder from the electronic image sensor following the capture of at least one dental image, since a person would be motivated to dispose the holder and prepare the image sensor for the next patient.

With regard to claims 19 and 20, Brooks and Carrol *et al.* disclosed the method as set forth in claim 18, wherein the electronic image sensor comprises a charge-coupled device or a CMOS active pixel sensor array (Carrol *et al.*, column 1, lines 59-63).

With regard to claim 21, Brooks and Carrol *et al.* disclosed the method set forth in claim 18.

However, these references do not teach that the adhesive is selected from the group consisting of tape, epoxy, hot melt, and sealant.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an adhesive selected from the group consisting of tape, epoxy, hot melt, and sealant, since a person would be motivated to employ an adhesive that is capable of removably bonding the holder and the image sensor as long as it is safe to the patient. Furthermore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to choose from among the known equivalents based solely on design choice absent any showing of criticality; the lack of criticality is demonstrated by applicant's claiming of a plurality of equivalent adhesive.

Response to Arguments

7. Applicant's arguments filed 19 August 2003 have been fully considered but they are not persuasive.

In response to applicants' argument that Brooks disclosed an "alignment system" rather than a "positioning system", the recitation "positioning system" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Furthermore, the examiner disagrees with applicants' characterization of

Brooks' invention. Although the lines are for alignment with an x-ray tube, the bite tab provided by Brooks' invention allows a dentist to properly position the image sensor adjacent a tooth (abstract, lines 6-9).

The applicants argue that it would not have been obvious to a person skilled in the art, even using an electronic image sensor, to utilize a removable bond, since the references fail to teach or suggest a removable bond. The examiner would like to point out that the motivation for utilizing a removable bond does not have to come from the references exclusively; it could be simple common sense. It is well known that taking a dental x-ray sometimes requires trial and error to find the correct position and orientation for the x-ray film because it is not an exact science. (In fact, Brooks' invention was designed to address this issue). Furthermore, as pointed out in the rejection, a person skilled in the art would be motivated to replace an x-ray film with an electronic image sensor due to its many advantages over the x-ray film. Once a person decides to replace the x-ray film with an electronic image sensor, it would be obvious and logical to provide a removable bond between the holder and the electronic image sensor because the electronic image sensor is not a one-use device like the holder, which has to be disposed of after each use.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

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applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The applicants have amended the claims to recite "a pressure-sensitive adhesive". This limitation fails to add anything substantive to the claims for the following reason. The adhesive disclosed by Brooks is pressure-sensitive; in order to bond two pieces together, the pieces with the adhesive disposed between them must be pushed together with external force, resulting in pressure building up in the adhesive, causing the adhesive to deform responding to the pressure. Thus, the adhesive is considered to be sensitive to pressure.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1550.

Allen C. Ho
Patent Examiner
Art Unit 2882

ACH ACH 01.22.04


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER